

Serial No. 10/566,960
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Group Art Unit 1722

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SEP 24 2007

IN THE CLAIMS

Please amend Claims 1, 5, 6 and 9 as shown.

Please add Claims 11-23 as shown.

1. (Currently Amended) A cooling and molding water tank for extrusion of a plastic complicated profile, comprising a tank body including a front end block, a rear end block, a top cover, two side plates, a bottom plate and a plurality of foot plates which are in bolted or hinged joint, wherein an inlet pipe is provided on the side plate of the water tank near the front end block, an outlet pipe is provided on the side plate of the water tank near the rear end block, and a vacuum valve and a vacuum gauge are provided on the top cover of the water tank, characterized in that a plurality of molding blocks and water collection plates are provided along the length direction inside the tank body, said molding blocks and water collection plates being spaced from each other, wherein at least a water passage is provided near a periphery of each of said molding blocks and an internal cavity is provided in each of said water collection plates such that said cooling water flows through said tank in a periphery- inner circle- periphery pattern, said internal cavity has a shape similar to that of said profile and a dimension larger than a peripheral dimension of said profile such that a gap of 0.5-8 mm is formed between the internal cavity of said water collection plate and said profile, whereby said profile is cooled homogeneously by said cooling water passing through said internal cavity and the intervals therebetween becoming wider from the front end to the rear end.

2. (Original) A cooling and molding water tank for extrusion of a plastic complicated profile of claim 1, wherein said molding blocks and water collection plates are inserted into a receptacle at the internal side of the side plates of the water tank, which have a limited freedom of motion in the longitudinal, transverse and vertical directions.

3. (Original) A cooling and molding water tank for extrusion of a plastic complicated profile of claim 1, wherein the number of said molding blocks is 5-30.

4. (Original) A cooling and molding water tank for extrusion of a plastic complicated profile of claim 1, wherein the number of said water collection plates is 3-28.

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5. (Currently Amended) A cooling and molding water tank for extrusion of a plastic complicated profile of claim 1, wherein said water passage is a U-shaped slot at a periphery of each of said molding blocks ~~U-shape water passage slots are provided on the four peripheral sides of said molding blocks.~~

6. (Currently Amended) A cooling and molding water tank for extrusion of a plastic complicated profile of claim 5, wherein the width of said ~~V-shape~~ U-shaped water passage slots is 0.2-0.8 of the side length of the molding block, the depth of which ~~is ranged~~ ranges from 2-15 mm according to the size of the molding blocks.

7. (Original) A cooling and molding water tank for extrusion of a plastic complicated profile of claim 1, wherein an adjusting mechanism provided on the long side of the profile cavity passage of said molding blocks, said adjusting mechanism including a through kurf which is parallel to and 1-8 mm from the plane of the long side of the profile cavity passage, and at least one through screw hole which is provided on and perpendicular to the plane of the long side, and intersects with the lower side of the kurf, wherein an adjusting screw is engaged with the screw hole and the top of the adjusting screw may extend against the upper side of said kurf.

8. (Original) A cooling and molding water tank for extrusion of a plastic complicated profile of claim 7, wherein the width of said kurf is 0.1-2.0 mm, and the length of said kurf is equal to that of the long side of the profile cavity passage, or a little longer or shorter.

9. (Currently Amended) A cooling and molding water tank for extrusion of a plastic complicated profile of claim 1, wherein ~~the shape of an internal cavity of said water collection plate is the shape of an outwardly expanded section of a plastic complicated profile which expands 0.5-8 mm in the radial direction, and the shape of some parts of the internal cavity are overlapped, adjacent, or complicated can be simplified.~~

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10. (Original) A cooling and molding water tank for extrusion of a plastic complicated profile of claim 1, wherein said water collection plates can be made of stainless steel, alloy aluminum, organic glass, or other stainless and corrosion resistant materials.

11. (New) A cooling and molding water tank for extrusion of a plastic profile, comprising a tank body having a front end block and a rear end block, an inlet pipe near the front end block and an outlet pipe near the rear end block for providing a cooling water to flow through said tank body along a longitudinal direction, and a plurality of molding blocks provided inside the tank body, wherein a plurality of water collection plates are provided inside the tank body, each having an internal cavity in a similar shape to that of said plastic profile and with a lateral dimension larger than an peripheral dimension of said plastic profile, thereby forming a substantially uniformed gap between said water collection plates and said plastic profile to allow said cooling water passing said internal cavity to cool said profile homogeneously.

12. (New) The cooling and molding water tank of claim 11, wherein said water collection plates are arranged to be spaced from said molding blocks along said longitudinal direction.

13. (New) The cooling and molding water tank of claim 12, wherein said water collection plates are arranged to be in an alternative pattern with said molding blocks.

14. (New) The cooling and molding water tank of claim 12, wherein said molding blocks and said water collection plates are arranged to be more dense from the rear end block toward the front end block.

15. (New) The cooling and molding water tank of claim 11, wherein at least one water passage is provided in each of said molding blocks to allow said cooling water to pass therethrough.

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16. (New) The cooling and molding water tank of claim 15, wherein said water passage is located at or near a periphery of said each of said molding blocks such that said cooling water flows through said tank in a periphery-inner circle-periphery pattern.

17. (New) The cooling and molding water of claim 16, wherein said water passage is a U-shaped slot provided at said periphery of said each molding block.

18. (New) The cooling and molding water tank of claim 11, wherein said lateral dimension of said internal cavity of said water collection plates is 0.5 – 8 mm larger than said peripheral dimension of said plastic profile.

19. (New) The cooling and molding water tank of claim 11, wherein said plastic profile has a complicated contour.

20. (New) A cooling and molding water tank for extrusion of a plastic profile, comprising a tank body having a front end block and a rear end block, an inlet pipe near the front end block and an outlet pipe near the rear end block for providing a cooling water to flow through said tank body along a longitudinal direction, and a plurality of molding blocks provided inside the tank body, wherein a plurality of water collection plates are provided inside the tank body, each having an internal cavity for said profile and said cooling water to pass therethrough, whereby said profile is cooled homogenously by said cooling water.

21. (New) The cooling and molding water tank of claim 20, wherein said internal cavity of said water collection plates has a shape similar to that of said plastic profile and with a lateral dimension larger than an peripheral dimension of said plastic profile, thereby forming a substantially uniformed gap between said water collection plates and said plastic profile.

22. (New) The cooling and molding water tank of claim 20, wherein a water passage is provided near a periphery of each of said molding blocks to allow said cooling water to pass therethrough and flow in said tank in a periphery-inner circle periphery pattern.

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23. (New) The cooling and molding water tank of claim 22, wherein said water passage is a U-shaped slot provided at the periphery of said each of said molding blocks.